COCONINO COUNTY HEALTH DEPARTMENT
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Barbara Worgess
Departmental Director

COCONINO COUNTY
HEALTH DEPARTMENT

ENVIRONMENTAL QUALITY

PROCEDURES FOR CONVENTIONAL ONSITE WASTEWATER TREATMENT FACILITY (OWTF) PROVISIONAL VERIFICATION

(Application to construct a Conventional Wastewater Treatment System)

Sumbit the following items below in order to obtain Provisional Verification (PV) to construct and discharge from a conventional OWTF [Arizona Administrative Code (AAC) R18-9-E302.
Submittal requirements that are incomplete or if an item(s) are missing, review will not begin until requirements are complete.

COMPLETENESS REVIEW:

1) Completed Notice of Intent to Discharge (application, pages 2-3).
2) Appropriate fee (see page 2 to determine your fee).
3) Copy of Site Investigation report(s) and all relevant soil testing (i.e.) percolation tests, ASTM.
4) Three detailed plot plans of the property. See Plot Plan Checklist requirements on page 4 and Plot Plan Example on page 9 for guidance). Minimum paper size 8½" x 11" .
5) One floor plan drawn to scale with all plumbing fixture units (sinks, toilets, etc.).
6) Completed System Design Flow Form (page 6).
7) Design Calculation form for shallow & deep trench systems **OR** for chamber technology systems (page 7, 8).

PLAN REVIEW:

1) When the submittal is complete, the inspector has 10 working days to complete the review.
2) If your submittal does not comply with the requirements of the general permit or other applicable requirements of Article 3 (Aquifer Protection Permits), you will receive a written request for additional information.
3) When your submittal is approved, you will receive a copy of your PV, along with a copy of your stamped approved plot plan. A copy of your PV will be forwarded to Community Development. You will have 2 years to complete construction of your OWTF from the time the PV was issued. Once the construction is complete, please contact your district inspector in advance to schedule the final inspection. Please allow 5 working days for final inspection (weather permitting).
4) If your submittal is denied, you will receive a Notice of Denial with a list of deficiencies to be corrected. After corrections have been made, re-apply and pay the required fee.

NOTE: Any changes to floor plans or in wastewater system type will require the applicant to obtain and complete the "Resize" packet at our front desk.

2500 N. Fort Valley Rd. Building #1, Flagstaff, AZ 86001-9332
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NOTICE OF INTENT TO DISCHARGE

FEES		
☐	*PROVISIONAL VERIFICATION (PV):*	*$ 413.00*
☐	*RESIDENTIAL (REPAIR):*	*$ 155.00*
☐	*SEPTIC TANK ONLY:*	*$ 155.00*

PAYMENT INFORMATION

FEE PAID: _____ *DATE:* _____

RECEIPT # _____

SUBMITTED TO: _____

SITE INFORMATION

SUBDIVISION: _____ **UNIT #** _____ **LOT #** _____

ASSESSOR'S PARCEL # _____ **SIZE IN ACRES:** _____

PROPERTY ADDRESS: _____

TOWNSHIP: _____ **RANGE:** _____ **SECTION:** _____ , _____ ¼ _____ ¼ _____ ¼

LATITUDE: _____ º _____ ' _____ " N **LONGITUDE:** _____ º _____ ' _____ " W

HOME OWNER/AUTHORIZED AGENT (person with overall permit responsibility)

NAME: _____ **TELEPHONE/FAX #** _____

ADDRESS: _____ **CITY/STATE/ZIP:** _____

CONTACT PERSON (if different than home owner)

NAME: _____ **TELEPHONE/FAX #** _____

ADDRESS: _____ **CITY/STATE/ZIP:** _____

CONTRACTOR INFORMATION

NAME: _____ **TELEPHONE/FAX #** _____

ADDRESS: _____ **CITY/STATE/ZIP:** _____

LICENSE # _____ **LICENSE CLASSIFICATION:** _____

DISPOSAL SYSTEM INTENDED TO SERVE (check category & give requested figures)

☐ **NEW RESIDENCE** ☐ **EXISTING RESIDENCE**

_____ **# OF BEDROOMS** _____ **# OF EXISTING BEDROOMS** _____ **# OF DENS/OFFICES**

_____ **# OF DENS/OFFICES** _____ **# OF PROPOSED BEDROOMS**

NARRATIVE DESCRIPTION OF PROJECT

☐ **CONVENTIONAL SEPTIC TANK SYSTEM (GENERAL PERMIT 4.02) SERVING A SINGLE FAMILY RESIDENCE.**

This onsite wastewater treatment facility consists solely of a conventional septic tank system and disposal field sized for a design flow of _____ gallons per day. The septic tank conveys wastewater to a disposal field consisting of (*check one)*:

☐ **SHALLOW TRENCH** ☐ **DEEP TRENCH** ☐ **BED** ☐ **CHAMBER TECHNOLOGY**

The expected date of the first operation of this system is _____ . The sewage to the septic tank has the characteristics of: ☐ **TYPICAL HOUSEHOLD SEWAGE; OR** ☐ **TYPICAL HOUSEHOLD SEWAGE and (*list other sources and characteristics of the wastewater)*** _____

☐ **CONVENTIONAL SEPTIC TANK SYSTEM (GENERAL PERMIT 4.02) SERVING A MULTI-FAMILY RESIDENCE.**

This onsite wastewater treatment facility consists solely of a conventional septic tank system and disposal field sized for a design flow of _____ gallons per day. The septic tank conveys wastewater to a disposal field consisting of (*check one)*:

☐ **SHALLOW TRENCH** ☐ **DEEP TRENCH** ☐ **BED** ☐ **CHAMBER TECHNOLOGY**

The expected date of the first operation of this system is _____ . The source(s) of flow to the system are (describe):

The sewage to the septic tank has the characteristics of: ☐ **TYPICAL HOUSEHOLD SEWAGE; OR** ☐ **OTHER (*describe)***

CERTIFICATION OF COMPLIANCE: To be completed by the homeowner or authorized agent.

I, _____ , on this date of, _____ certify that this Notice of Intent To Discharge and attachments were prepared under my direction or authorization and all information is, to the best of my knowledge, true, accurate, and complete. I also certify that the septic tank and disposal field system described in this form is or will be designed, constructed, and operated in accordance with the terms and conditions of General Aquifer Protection Permit 4.02 (AAC R18-9-E302) and applicable requirements of Arizona Revised Statutes Title 45, Chapter 2, and Arizona Administrative Code Title 18, Chapter 9 regarding aquifer protection permits. I am aware that there are significant penalties for submitting false information including permit revocation as well the possibility of fine and imprisonment for knowing violations.

_____

SIGNATURE

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PLOT PLAN CHECKLIST FOR STANDARD SYSTEMS

NAME: _____ **PHONE #** _____

SUBDIVISION/PARCEL# _____

DIRECTIONS: The following checklist includes all the items necessary for properly completing the plot plan. Please include all of the items to your plot plan that apply. If your plot plan submittal does not comply with the requirements of the general permit or other applicable requirements of Article 3 (Aquifer Protection Permits), you will receive a written request for additional information. See the Plot Plan Example on Page 9 for guidance.

		No	GENERAL INFORMATION
1.	☐	☐	All property dimensions, names of streets, roadways and easements.
2.	☐	☐	Scale needs to be either 1" = 20' for 1 acre or less. 1" = 40' for more than 1 acre.
3.	☐	☐	Direction of North.
4.	☐	☐	Owners name, designer's name, assessor's parcel #, subdivision, and lot #.
5.	☐	☐	Property size in acres.
6.	☐	☐	Location & dimensions of all proposed & existing structures (including decks, patios, & driveways).
7.	☐	☐	Location of wells, water lines, & bodies of water (include wells within 100' of neighboring properties).
8.	☐	☐	Distance to cut banks, slopes, dry washes & drainage easements on the property.
9.	☐	☐	Topography, showing elevation in contour intervals, with original and post installation grades.
10.	☐	☐	Location of all test holes that were inspected on property. (Indicate test hole #'s).
11.	☐	☐	Location of percolation test(s). (if they were required) (Indicate percolation test hole #'s).

#	Yes	No	SYSTEM DIMENSIONS:
12.	☐	☐	Building sewer line type, length & slope (3-4" ABS, min. length is 10' & max. length is 100', installed per upc).
13.	☐	☐	Two-way clean-out(s) location in the building sewer line. (1 @ dwelling, 1 every 50', 1 @ any bend greater than 45 degrees).
14.	☐	☐	Septic tank size, material, and tank manufacturer (must be ADEQ approved).
15.	☐	☐	Septic tank effluent filter (assure that it prevents passage of solids > 1/8", corrosion & erosion resistant)
16.	☐	☐	Outlet line type, length, & slope, (3-4" PVC, min. length 6', minimum slope is 4" in first 10', then ¼" per ft. from then on).
17.	☐	☐	Distribution method: ☐ Distribution Box (D-box), required for 3 lines or more or 2 lines or more where there is significant slope in primary disposal area. D-box must be leveled w/ water (have water available for final inspection), must be set on a concrete pad & stabilized with a concrete collar. ☐ Level Manifold Line, two lines required. Indicate stabilization method.
18.	☐	☐	Leach field must be located in area of at least three of the test holes performed at the site.
19.	☐	☐	Leach pipe/chamber lengths and number of lines. All lines must be the same length to provide equal distribution. (Lines cannot exceed 100', must be level & capped at each end, and have inspection ports).
20.	☐	☐	Distance between distribution pipe. (2x the sidewall depth, or 5 feet, whichever is greater).
21.	☐	☐	Location of reserve area. Reserve area must be equal in size to the disposal field in area of one test hole.
22.	☐	☐	Provide a cross-section of your proposed leach trench, or chamber showing the inspection pipe, sidewall depth, trench width, and total-trench depth. (see pages 7 & 8 for examples).
23.	☐	☐	Include all minimum setback requirements that apply (see page 5).

FOR DEPARTMENT USE ONLY

☐ **APPROVED** ☐ **NOT APPROVED** **DATE:** _____ **ENV. SPECIALIST:** _____

COMMENTS: _____

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CUSTOMER COPY OF SETBACK REQUIREMENTS R18-9-A312(C)

FEATURE OF POTENTIAL IMPACT	SETBACK DISTANCE (FEET)	
	SEPTIC TANK	DISPOSAL TRENCH, BED, OR SEEPAGE PIT
Building (1)	10	10
Property line shared with adjoining land **not served** by a common drinking water system or an existing well (2)	50	50
All other property lines	5	5
Water supply well (public or private)	100	100
Perennial or intermittent stream (3)	100	100
Lake or reservoir (4)	100	100
Drinking water intake from a surface water source (includes an open water body, downgrade spring or a well tapping streamside saturated alluvium)	200	200
Drainage easement or wash with drainage area more than five acres (5)	50	50
Water main or branch water line well tapping streamside saturated alluvium)	10	10
Domestic service water line (6)	5	5
Downslope cut banks and culvert or roadway ditches (7)	15	15
Driveway (8)	5	5
Swimming pool (9)	5	5
Easement (except drainage easement)	5	5

Notes:

(1) Includes porches, decks, and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks and driveways, and similar structures and appurtenances.

(2) A common drinking water system is a system that currently serves or is under legal obligation to serve the property and may include a drinking water utility, a well sharing agreement, or other viable water supply agreement. A setback may be reduced to a minimum of five feet from the property line if:
   a. The owners of any affected undeveloped adjacent properties agree by an appropriate written document to limit the location of any new well on their property to at least 100 feet from the proposed septic tank and primary and reserve disposal field areas; and
   b. The arrangements and documentation are approved by the Department.

(3) Measured from the limit of peak stream flow from a 10-year, 24-hour rainfall event.

(4) Measured from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir.

(5) Measured from the nearest edge of the defined natural channel bank or drainage easement whichever is less. A setback may be reduced to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.

(6) The water line separation from sewer lines shall be as follows:
   a. A water line crossing a sewer line at an angle of 45 to 90 degrees shall be one foot above the sewer line.
   b. A water line crossing a sewer line at an angle of less than 45 degrees is not allowed.
   c. A water line that is one to three feet from a sewer line but does not cross the sewer line shall be one foot above the sewer line and may be on a bench in the same trench or in a separate trench.
   d. A water line that is less than one foot from a sewer line but does not cross the sewer line is not allowed.

(7) Measured to the top of the cut bank or ditch or to the nearest sidewall of the culvert. The setback to a disposal trench, bed, or seepage pit is 15 feet or four times the elevation difference between the finished grade of the disposal trench, bed, or seepage pit and the elevation at the cut bank bottom, ditch bottom, or culvert invert, whichever is greater, up to 50 feet.

(8) Measured to the nearest edge of septic tank excavation. A properly reinforced septic tank and cover may be placed at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.

(9) A setback may be increased due to soil loading and stability concerns.

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SYSTEM DESIGN FLOW FORM

Use the fixture count chart below to determine the total number of fixture units in your home. Check the corresponding box on the system design flow chart based on your fixture count and the number of bedrooms to determine the system design flow that is required. Enter the information at the bottom of the page.

FIXTURE COUNT CHART

Residential Fixture Type	Proposed # of Each Fixture Type	x	Fixture Units	=	Total # of Fixtures For Each Type
Bathtub			2	=	
Bidet		x	2	=	
Dishwasher, service		x	2	=	
Clothes washer (with or without laundry tub)		x	2	=	
Utility tub or sink separate from clothes		x	2	=	
Sink, kitchen (with or without dishwasher)		x	2	=	
Shower, single stall		x	2	=	
Sink, bar		x	1	=	
Sink, service		x	3	=	
Lavatory, single or double		x	1	=	
*Toilet, 1.6 gallons per flush (gpf)		x	3	=	
Toilet, >1.6 to 3.2 gpf		x	4		
Toilet, greater than 3.2 gpf		x	6	=	
			FIXTURE COUNT TOTAL	=	
			PHYSICAL NO. OF BEDROOMS		

*** To receive credit for toilet of 1.6 gallons per flush, obtain the Low Flush Affidavit Form at our front desk. Complete and submit with this packet. Credit will not be issued without a notarized Low Flush Affidavit Form.**

SYSTEM DESIGN FLOW CHART

√	No. of Bedrooms*	Fixture Count	Minimum Tank Size (gal)	System Design Flow (gpd)
☐	1	7 or less / more than 7	1000 / 1000	150 / 300
☐	2	14 or less / more than 14	1000 / 1000	300 / 450
☐	3	21 or less / more than 21	1000 / 1250	450 / 600
☐	4	28 or less / more than 28	1250 / 1500	600 / 750
☐	5	35 or less / more than 35	1500 / 2000	750 / 900
☐	6	42 or less / more than 42	2000 / 2500	900 / 1050
☐	7	49 or less / more than 49	2500 / 3000	1050 / 1200
☐	8	56 or less / more than 56	3000 / 3000	1200 / 1350

NOTE: For a single residence with more than 7 bedrooms, use R18-9-A314(D)(2) as the basis for determining minimum septic tank size and system design flow.

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DESIGN CALCULATIONS FOR SHALLOW & DEEP TRENCH SYSTEMS

Check the box for what type of system you are proposing, complete the calculations and submit this with your application.

☐ SHALLOW TRENCH ☐ **DEEP TRENCH**

DESIGN CALCULATIONS

See page 6 to determine your system design flow. System design flow = _____ gallons per day **(B)** flow.

Percolation rate = _____ (mpi) *For your SAR value see R18-9-A312D of the Aquifer Protection Permits (Copies at front desk).*

SAR value = _____ gallons per day / ft² **(C)** (B ÷ C) _____ total square feet.

***Choose a sidewall depth & trench width between 1 & 3 feet. 4 feet depth can be obtained in areas where there is no seasonal saturation of surface soils with an alternative design under R18-9-A312(G) See Rule Clarification #9 for exact specifications.*

Sidewall depth (1'-3') = _____ feet x 2 = _____ feet **(D) Trench width (1'-3') = _____ trench ft² **(E)**

D + E = _____ feet **(F)** *(Maximum trench credit = 11')*

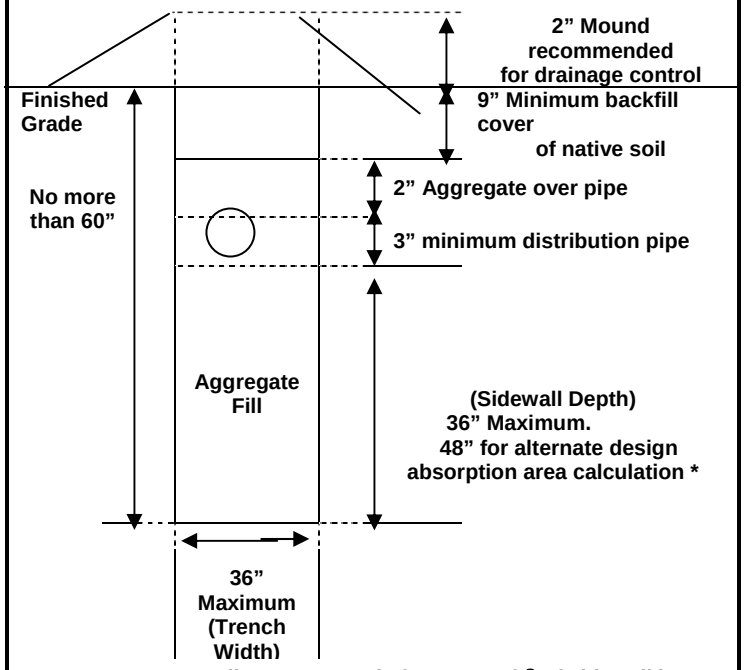
Constructed trench length = $\frac{(B)}{(C) \times (F)}$ = $\frac{\quad}{\quad \times \quad}$ = _____ = _____ linear feet.*

** Linear feet equals amount of distribution pipe that your system will require. Divide linear feet into the number of distribution lines you plan to construct.*

DRAWINGS NOT TO SCALE

SHALLOW TRENCH DESIGN

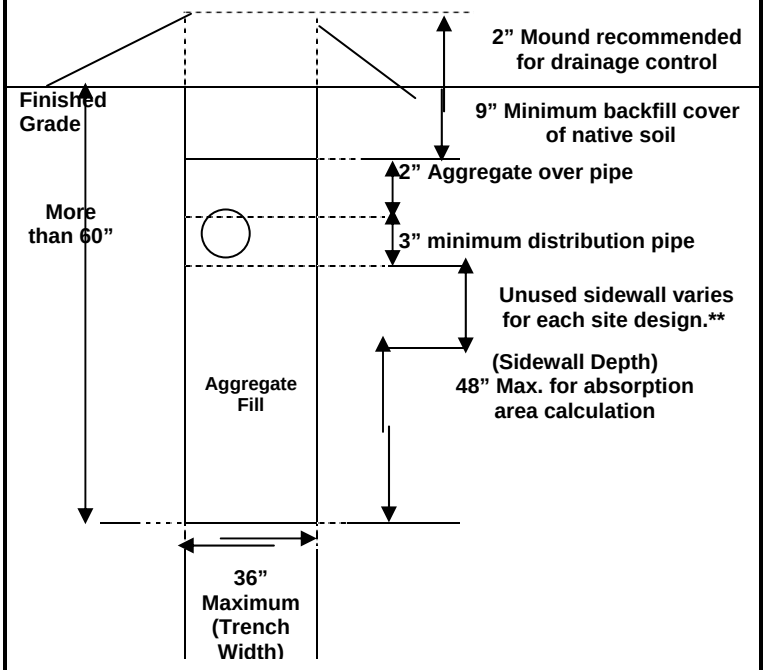
Please note that on a level lot the depth to grade will exceed the 9" minimum backfill.



*** NOTE: An applicant may apply for up to 4 ft² of sidewall by completing the 312G form in areas where there is no seasonal saturation of surface soils. (ADEQ Rule Clarification #9)**

DEEP TRENCH DESIGN

Deep trenches are used when the fall from the house is too great, and where there are limiting soils in the upper horizon.



**** NOTE: Actual sidewall dimension for absorption area calculation depends on trench depth and position of distribution pipe.**

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DESIGN CALCULATIONS FOR CHAMBER TECHNOLOGY

CHAMBER TECHNOLOGY

NOTE: Chamber manufacturer specification sheet must be provided with this form to validate

Chamber manufacturer: _____ Chamber type/model: _____

Width of the open bottom absorption surface of the chamber = _____ feet **(B)**

Vertical height (louver height) of the chamber _____ feet (V)

Length of the _____ feet **(L)**

A = (1.43 x B x L) + (2 x V Absorption area of each chamber =

(1.43 _____ x _____) + (2 _____ x _____) =

(_____) + (_____) = _____ feet

Note: See page 6 to determine system design flow.

System design flow = _____ gallons per day **(F)**

Percolation rate = _____ SAR value _____ gallons per day / ft **(G)**

(F / G) _____ / _____ = _____ square feet of leaching area required **(S)**

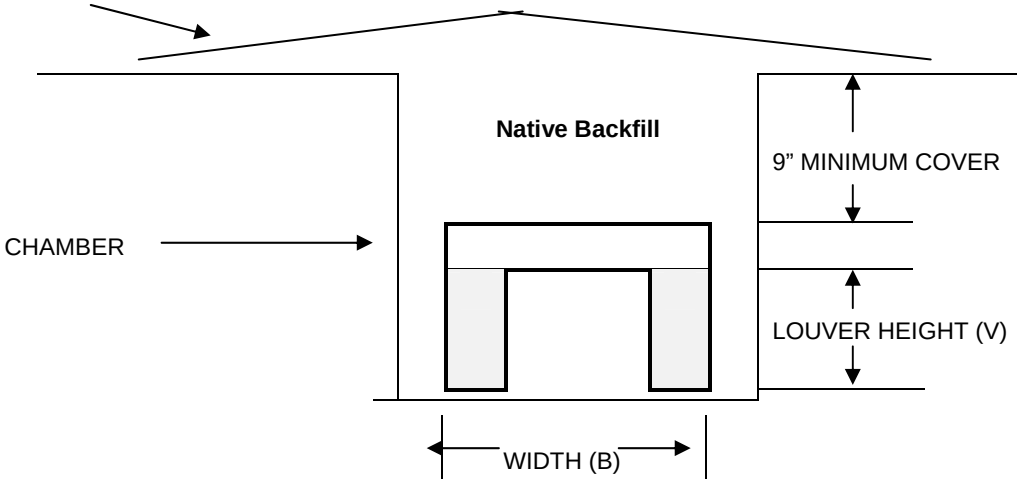
(S / A) _____ / _____ = _____ total #chambers. **(N)** (max 16 chambers per trench)

(L x N) _____ x _____ = _____ linear ft.

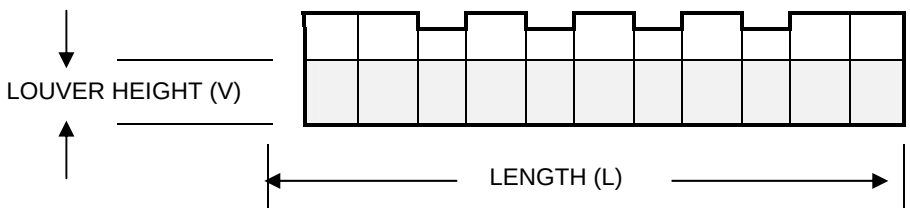
MOUND FOR DRAINAGE CONTROL

CHAMBER TRENCH DETAIL

NOT TO SCALE



CHAMBER SIDE VIEW



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REQUIREMENTS FOR FINAL INSPECTION FOR CONVENTIONAL WASTEWATER SYSTEMS

NOTE:
Please ensure the following has been completed prior to calling in for a final inspection.
Approval will be not issued for any deviance to these guidelines, permit specifications, and approved plot plan.

SCHEDULING FOR A FINAL INSPECTION:

Contact your district inspector up to a week in advance to schedule the final inspection of your system. The inspector has at least 5 business days to conduct the inspection once contact has been made with the inspector.

GENERAL:
Tank (s)/pipes/chambers need to be exposed for inspection. That includes, building sewer line, tank outlet line, manifold line/distribution box, & leach pipe/chambers. **Do Not** cover any portion of any pipe with fill/leach rock until approval to cover is issued.

BUILDING SEWER LINE:
Must be at least 10' in length, with 2-way clean-out, ABS or Schedule 40 pipe of 3" or 4 "diameter, slope of ¼" per foot.

SEPTIC TANK:
Must have manhole ports unscrewed for internal inspection. Septic tank must have effluent filter, inlet/outlet baffles, inlet/outlet risers if within 6" of ground surface, scum/sludge baffles, water tight, and inlet/outlet lines be properly sealed.

SEPTIC TANK WATER TEST: (if required)
See Aquifer Protection Permits R18-9-A314E for additional testing and information.

Water Test applies to tanks cast in place and multi-part tanks assembled and sealed at the site of use.

A. The applicant shall ensure the tank is filled with clean water to the invert of the outlet and the water left standing in the tank for 24 hours. The applicant shall:
   1. After 24 hours, refill the tank to the invert, if necessary;
   2. Record the initial water level and time; and
   3. After one hour, record the water level and time;

B. The tank passes the water test if the water level dropped less than ¼" over the one hour period. Any visible leak of flowing water is considered a failure. A damp or wet spot that is not flowing is not considered a failure.

TANK OUTLET LINE:

Must be 3-4" PVC, 6' minimum length, properly sealed at tank connection, and have a minimum slope of 4", and ¼" per foot fall for lines greater than 10'.

HEADER/MANIFOLD LINE: (If required)
Must be 3-4" PVC, level in all spots, water tight, and soil underneath line must be undisturbed/native soil.

DISTRIBUTIN BOX: (If required)
Must be concrete or polyethylene, level (water inside box to verify), stabilized with concrete pad underneath, and secured with a concrete collar.

TRENCHES/LEACH PIPE/CHAMBERS
Must be level or (slope no greater than ¼" per 10'), equally distributed, tight connections, ends capped, and inspection ports installed. Leach pipe must be 3-4" PVC perforated pipe and placed on leach rock for inspection. Do not exceed permitted trench depth. If trench depth is exceeded, additional test holes may be required or system will be denied.

LEACH ROCK (If necessary)
Must be ¾-2" diameter, clean (not covered with fill), and not covering leach pipes.

POST INSPECTION REQUIREMENTS:
Must have 2" of leach rock over all leach pipe, a layer of geo-textile filter fabric over the 2"s of leach rock, and a minimum of 9" of clean fill.

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DEPARTMENT OF HEALTH SERVICES
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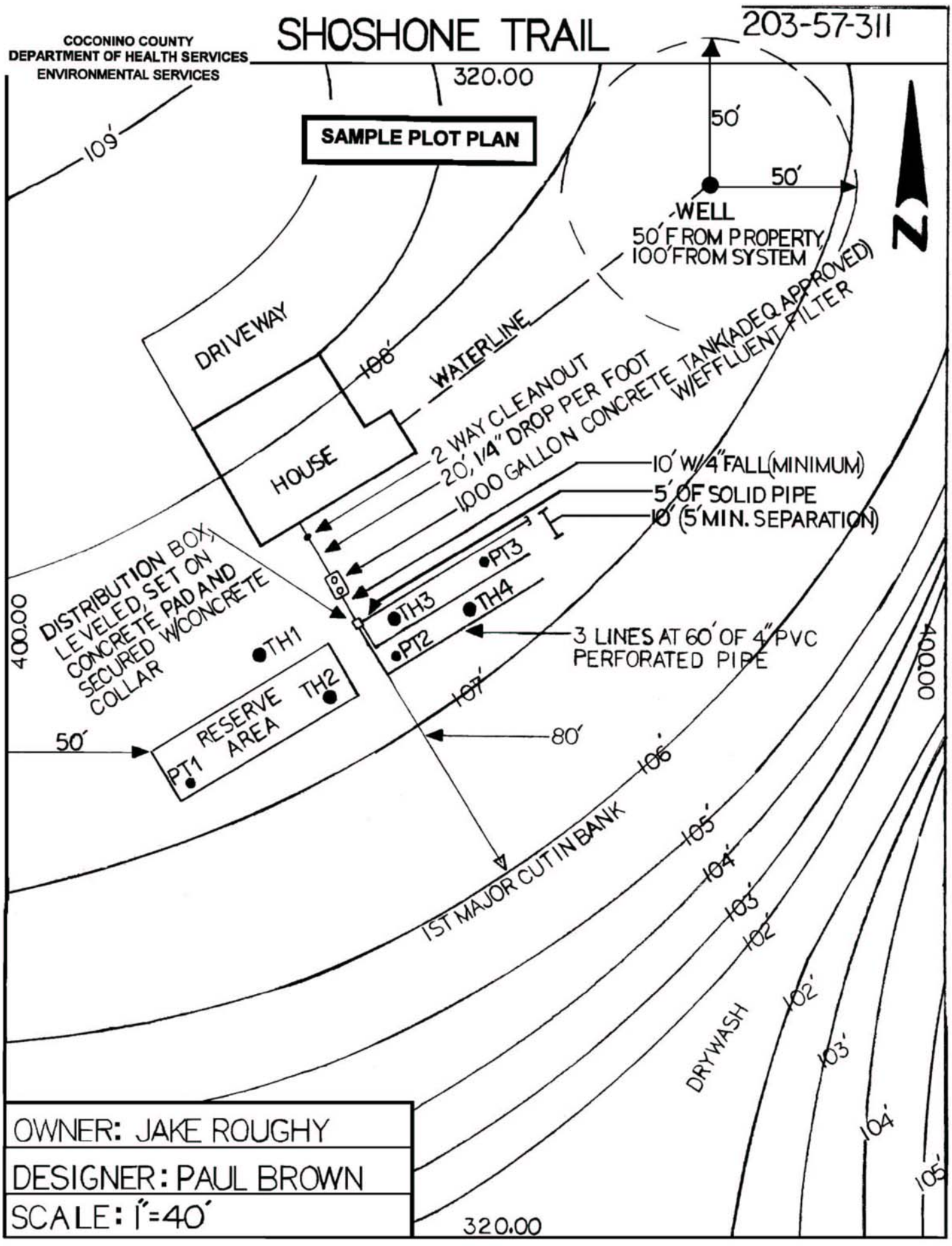
SHOSHONE TRAIL

203-57-311

SAMPLE PLOT PLAN



OWNER: JAKE ROUGHY
DESIGNER: PAUL BROWN
SCALE: 1"=40'